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No. 06-937

IN THE

Supreme Court of the United States

QUANTA COMPUTER, INC., *et al.*,
Petitioners,

v.

LG ELECTRONICS, INC.
Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF AMICUS CURIAE OF THE AMERICAN SEED TRADE ASSOCIATION IN SUPPORT OF NEITHER PARTY

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Monsanto Co. v. *McFarling*, 302 F.3d 1291 (Fed. Cir. 2002), *cert. denied*, 537 U.S. 1232 (2003) 4, 19

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Pfaff v. *Wells Elecs., Inc.*, 525 U.S. 55 (1998) 13

United States v. *General Elec. Co.*, 272 U.S. 476 (1926) 17, 20

United States v. *Univis Lens Co.*, 316 U.S. 241 (1942) 19, 20

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Legislative Materials:

H.R. Subcomm. on Basic Research of H.R. Comm. on Science, *Seeds of Opportunity: An Assessment of the Benefits, Safety, and Oversight of Plant Genomics and Agricultural Biotechnology*, Comm. Print 106-B (2000) 5, 6, 7, 11

Other Authorities:

Jorge Fernandez-Cornejo, Econ. Research Serv., U.S. Dep't of Agric., Agric. Information Bulletin No. 786, *The Seed Industry in U.S. Agriculture: An Exploration of Data and Info. on Crop Seed Markets, Regulation, Industry Structure, and Research and Development* (Feb. 2004), *available at* http://www.ers.usda.gov/publications/AIB 786 ..... 10, 11, 12

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Jorge Fernandez-Cornejo, *et al.* Econ. Research Serv., U.S. Dep't of Agric., Agric. Economic Rep. No. 786, *Genetically Engineered Crops for Pest Management in U.S. Agriculture: Farm-Level Effects* (Apr. 2000), *available at* http://www.ers.usda.gov/publications/AER 786..... 7, 9

Jorge Fernandez-Cornejo, *et al.*, *Have Seed Industry Changes Affected Research Effort?*, Amber Waves Vol. 2 Issue 1 (Feb. 2004), *available at* http://www.ers.usda.gov/AmbeWaves/February04/Features /HaveSeed.htm 13

Counsel for Biotechnology Information, *Good Ideas Are Growing: Plant Biotechnology* (2003), *available at* whybiotech.com/html/pdf/GoodIdeas-96dpi.pdf.... 6, 7, 8

Thomas Jefferson, *Memorandum of Services, reprinted in* M.D. Peterson, *The Writings of Thomas Jefferson* (1984)..... 5

National Agric. Statistics Serv., U.S. Dep't of Agric., *Farms, Land in Farms, and Livestock Operations: 2006 Summary* (Feb. 2007), *available at* http://usda.mannlib. cornell. edu/usda/current/FarmLandIn/ FarmLandIn-02-02-2007.pdf..... 10

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National Agric. Statistics Serv., U.S. Dep't of Agric., *Trends in U.S. Agriculture—Farm Numbers and Land in Farms* (Jan. 2001), *available at* http://www.usda. gov/nass/pubs/trends/farmnumbers.htm 10

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Sujatha Sankula, National Center for Food and Agricultural Policy, *Quantification of the Impacts on U.S. Agriculture of Biotechnology-Derived Crops Planted in 2005* (Nov. 2006), *available at* http://www.ncfap.org/whatwedo/biotech-us.php..... 8

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Haley Stein, *Intellectual Property and Genetically Modified Seeds: The United States, Trade, and the Developing World*, 3 N.W. J. of Tech. & Intell. Prop. 160 (Spring 2005) 7, 11, 13

Brian D. Wright, Univ. of Cal., Div. of Agric. & Nat. Res., *Plant Engineering and Intellectual Property Protection*, Agric. Biotechnology in Cal. Series, Pub. 8186 (2006), *available at* http:// anrcatalog.ucdavis.edu/pdf/8186.pdf 13

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BRIEF AMICUS CURIAE OF THE AMERICAN SEED TRADE ASSOCIATION IN SUPPORT OF NEITHER PARTY

STATEMENT OF INTEREST OF AMICUS CURIAE

Founded in 1883, the American Seed Trade Association ("ASTA") is a voluntary, nonprofit national trade association representing approximately 855 members involved in seed production and distribution, plant breeding, and related industries in North America. As an authority on plant germplasm, ASTA monitors and takes positions on science and policy issues of industry-wide importance. Its mis-

sion is to enhance the development and free movement of quality seed worldwide.[1]

Many ASTA members are research-intensive companies engaged in the discovery, development, and marketing of enhanced seed—*i.e.*, seed that has been modified to express certain beneficial or desirable traits. These members annually invest millions of dollars in research and development of new seed varieties by both traditional breeding methods, such as hybridization, and newer methods involving advanced gene technology to produce new plant varieties and to make American agriculture more productive and the Nation's food supply more plentiful and nutritious. It is estimated that these ASTA members hold over one-third of the more than 1800 utility patents claiming plant-related subject matter that have been granted by the U.S. Patent & Trademark Office. More than 60% of ASTA's members are small seed companies with annual sales of $1 million or less. Many of these seed companies are licensed to incorporate patented seed technology developed by others into their own germplasm to produce enhanced seeds for sale.

ASTA and its members have a substantial interest in this case. Potentially on the chopping block is the Federal Circuit's decision in *Mallinckrodt, Inc.* v. *Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992), in which the Federal Circuit held that the patent exhaustion/first sale doctrine does not apply to a *conditional* sale—*i.e.*, one imposing restrictions on the use of the patented article sold. If this Court

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[1] Pursuant to this Court's Rule 37.6, ASTA notes that no part of this brief was authored by counsel for any party. ASTA also notes that no party or counsel for a party made a monetary contribution intended to fund the preparation or submission of the brief, and that no person or entity other than ASTA or its members made such a monetary contribution. This brief is filed with the consent of all the parties.

were to reject *Mallinckrodt* and broadly hold that conditional sales run afoul of the patent exhaustion/first sale doctrine, its ruling could have serious and perhaps unintended adverse consequences.

Private seed patentees typically make their patented seed technology available through a limited license that prohibits the planting or selling of second-generation seed that is naturally produced through the use of the original, sold seed. Without such licenses, seed patentees would lose the ability to control and benefit from their patented inventions, as the original seed could be reproduced indefinitely and exponentially. Accordingly, if this Court holds that a patentee cannot preserve any of its exclusive rights through restrictions imposed on the use of a patented article that has been sold—even restrictions that do not deprive the purchaser of a reasonable use of the article—ASTA urges the Court, for reasons explained below, to make clear that restrictions on the use of an article produced by a patented article containing self-replicating technology, such as second-generation seed, do not implicate the patent exhaustion/first sale doctrine.

SUMMARY OF ARGUMENT

I. Enhanced seed technology has brought—and continues to promise to bring—a wealth of benefits to farmers, consumers, and the environment. Crops designed to carry insect-resistant and herbicide-tolerant traits, for example, have produced higher yields and higher net farm returns while significantly reducing pesticide use. These and other revolutionary plant improvements of the last decade or so are the result of considerable research and development efforts involving private investment of hundreds of millions of dollars each year. Future investments of this magnitude—and future developments in enhanced seed technology—are contingent upon strong and effective intellectual property

protection that ensures that seed patentees will be able to control and reap the benefits of their patented inventions.

Because of the self-replicating nature of seeds, private seed patentees must make their patented technology available through a limited license that prohibits the planting or selling of second-generation seed produced by the original, sold seed. If seed patentees were stripped of this ability to protect and enforce their exclusive patent rights with respect to second-generation seed, the consequences for the seed industry would be devastating. In the end, however, farmers and consumers would perhaps stand to lose the most. If seed patentees could not protect their patent rights through restrictions on the use of second-generation seed, they could no longer make their patented technology available at prices that most farmers could afford. Without a market for their product, private firms would cease to invest the substantial resources required to develop new and improved seed technology.

II. Sales conditioned on the acceptance of a license restricting the use of second-generation seed do not implicate the patent exhaustion/first sale doctrine. That doctrine is concerned with restrictions on the use of the patented article sold. Licensing restrictions on the use of second-generation seed do not restrict the use of the original seed—*i.e.*, the patented article sold. Rather, such restrictions merely protect the patentee's right to exclude others from using or selling the second-generation seed, which "had never been sold." *Monsanto Co.* v. *McFarling*, 302 F.3d 1291, 1299 (Fed. Cir. 2002). The fact that a purchaser of seed containing patented technology is authorized in some sense to make copies of the original seed does not mean that it is also authorized to use or sell the second-generation seed. It is a fundamental principle of

patent law that a patentee may choose to allow others to make but not use or sell its patented invention. Accordingly, in the event this Court holds that even a conditional sale fully exhausts a patentee's rights with respect to the patent article sold, the Court should make clear that restrictions on the use of an article produced by a patented article containing self-replicating technology, such as second-generation seed, do not implicate the patent exhaustion/first sale doctrine.

ARGUMENT

I. SOUND PUBLIC POLICY FAVORS STRONG AND EFFECTIVE INTELLECTUAL PROPERTY PROTECTION FOR ENHANCED SEED TECHNOLOGY.

A. Enhanced Seed Technology Benefits Farmers, Consumers, And The Environment.

Thomas Jefferson once wrote that "[t]he greatest service which can be rendered any country is to add a useful plant to its culture."[2] Throughout history, farmers and scientists have searched for ways to create and improve plants. Since time immemorial, farmers have attempted to improve crops through selective breeding—saving seeds from plants that produced the best crops and planting them the following season. More recently, plant breeders have developed and perfected cross-breeding methods, such as sexual hybridization, to create new crop varieties.[3]

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[2] Thomas Jefferson, *Memorandum of Services, reprinted in* M.D. Peterson, *The Writings of Thomas Jefferson* 702-704 (1984).

[3] H.R. Subcomm. on Basic Research of H.R. Comm. on Science, *Seeds of Opportunity: An Assessment of the Benefits, Safety, and Oversight of Plant Genomics and Agricultural*

These two techniques—selective breeding and cross-breeding—have had a phenomenal impact on agriculture. Almost without exception, the commercial crops grown today have been genetically modified over time. Indeed, most important food crops "have been altered to such an extent that their wild ancestors are unrecognizable, and in some cases they are unknown altogether."[4] Modern corn, for instance, bears little resemblance to its early ancestor, teosinte, whose spindly little cobs measured only one to two inches long and boasted few kernels. Ancient varieties of potatoes and tomatoes were vastly different from their modern relatives—and barely edible, if at all. It was only after centuries of careful breeding that these crops were developed into the foods we know today.[5]

Although traditional cross-breeding is still employed to produce new plant varieties, the technique suffers from certain limitations. Traditional cross-breeding involves the transfer of many genes—some carrying desirable traits, some carrying not-so-desirable traits—to create a new plant variety. Producing a plant with the right combination of genes is a difficult and time-consuming process requiring repeated rounds of cross-breeding; bringing a crop to market can take up to 15 years or more. With the advent of modern biotechnology, scientists are now able to insert genes bearing certain beneficial or desirable traits directly into seed germplasm.[6] These recent advances—which allow scientists to

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Biotechnology, Comm. Print 106-B, at 10, 14 (2000) ("*Seeds of Opportunity*").

[4] *Id.*

[5] Counsel for Biotechnology Information, *Good Ideas Are Growing: Plant Biotechnology* 2 (2003) ("*Good Ideas*"), *available at* whybiotech.com/html/pdf/GoodIdeas-96dpi.pdf.

[6] *Good Ideas* at 2; *Seeds of Opportunity* at 14.

transfer specific genes to a plant from a variety of sources—have been likened to the "discovery of fire."[7]

The first generation of enhanced crops in use in the United States today includes crops designed to resist insects and viruses and to tolerate certain broad-spectrum herbicides. "Bt" crops, for example, are genetically engineered to carry genes from *Bacillus thuringiensis* ("Bt"), a naturally-occurring soil bacterium that produces proteins toxic to some insects. Crops containing the Bt gene are able to produce those proteins, thereby creating resistance to certain insects. Bt corn, for example, is resistant to the European corn borer, a pernicious pest that costs U.S. corn growers over $1 billion each year.[8] Other crops have been modified to tolerate certain broad-spectrum herbicides used by farmers to control weeds. The most common herbicide-tolerant crop currently in use is a herbicide-tolerant soybean designed to tolerate glyphosate, a highly effective but indiscriminate herbicide. Other important crops like papaya and squash have been modified to protect themselves against viral infection in much the same way humans are protected from disease—through "inoculation" and the resultant building of a natural defense.[9]

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[7] Haley Stein, *Intellectual Property and Genetically Modified Seeds: The United States, Trade, and the Developing World*, 3 N.W. J. of Tech. & Intell. Prop. 160, 169 (Spring 2005) ("*Intellectual Property and Genetically Modified Seeds*") (quotation omitted).

[8] Jorge Fernandez-Cornejo, *et al.* Econ. Research Serv., U.S. Dep't of Agric., Agric. Economic Rep. No. 786, *Genetically Engineered Crops for Pest Management in U.S. Agriculture: Farm-Level Effects* 2 (Apr. 2000) ("*Genetically Engineered Crops*"), *available at* http://www.ers.usda. gov/publications/AER 786; *Seeds of Opportunity* at 15.

[9] *Genetically Engineered Crops* at 2; *Good Ideas* at 3; *Seeds of Opportunity* at 15-16.

The use of these crops has had a "significant impact on U.S. agriculture."[10] One recent study of 11 enhanced crops planted in 2003 found that the use of such crops increased yields by 5.3 billion pounds, raised farm net income by $1.9 billion, and reduced pesticide use by 46.4 million pounds.[11] In addition to reduced pesticide use, the study found other significant environmental benefits, noting that the use of herbicide-tolerant crops led to an increase in "no-till" farming practices.[12] Such conservation practices—which leave soil virtually undisturbed from harvest to planting— minimize soil erosion and moisture loss and have been credited with creating better wildlife habitats and reducing greenhouse gases.[13] An updated study of 13 enhanced crops planted in 2005 found a continuing trend: yields increased by 8.3 billion pounds, farm returns rose by $2 billion, and pesticide use decreased by 69.7 million pounds.[14] The study concludes that "[t]he fact that adoption of biotechnology-derived crops has continued to grow each year since they were first introduced is a testimony to the ability of these crops to deliver tangible positive impacts and to the optimistic future they hold."[15]

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[10] Sujatha Sankula, *et al.*, National Center for Food and Agricultural Policy, *Impacts on U.S. Agriculture of Biotechnology-Derived Crops Planted in 2003: An Update of 11 Case Studies*, Executive Summary 1 (Oct. 2004), *available at* www.ncfap.org/whatwedo/pdf/ExecSummary10-18-04.pdf.

[11] *Id.* at 5.

[12] *Id.* at 7.

[13] *Id.*; *Good Ideas* at 12.

[14] Sujatha Sankula, National Center for Food and Agricultural Policy, *Quantification of the Impacts on U.S. Agriculture of Biotechnology-Derived Crops Planted in 2005*, Executive Summary 2 (Nov. 2006), *available at* http://www.ncfap.org/whatwedo/biotech-us.php.

[15] *Id.* at 12.

A recent government report on the use of insect-resistant and herbicide-tolerant corn, soybeans, and cotton presented similar findings. The report found that the use of such crops generally led to higher yields, increased farm returns, and reduced pesticide use.[16] In particular, the report found that the use of Bt cotton led to "significantly reduced insecticide use" and that the use of herbicide-tolerant soybeans led to "significant decreases in herbicide use."[17] As the report explains, herbicide-tolerant crops "may require lower application rates or fewer herbicide applications," and "in many cases, [herbicide-tolerant] crops allow farmers to use more benign herbicides instead of more harmful ones."[18]

With the potential for increased yields, higher returns, and lower pest control costs, enhanced seed technology is an obvious boon to farmers. Indeed, one government report notes that

> farmers believe that the use of [enhanced] crops will offer them many benefits, such as higher yields, lower pest management costs, and greater cropping practice flexibility. While benefits and performance of these crops vary greatly by region because of pest infestation levels and other factors, the rapid adoption rates are evidence that, for many farmers, expected benefits outweigh expected costs.[19]

These many benefits carry over to consumers as well. Increased yields lead to lower prices. Decreased pesticide use reduces adverse impacts on public health. More fundamentally, enhanced crops

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[16] *Genetically Engineered Crops* at 15-16.

[17] *Id.* at iii.

[18] *Id.* at 3.

[19] *Id.* at 18.

play a critical role in avoiding food shortages. As the U.S. population has grown, the Nation's supply of arable land has steadily decreased. In 1950, farm acreage totaled over 1.1 billion acres.[20] By 2004, farm acreage had shrunk to just over 900 million acres—a reduction of nearly 20%.[21] Yet despite this continuing decrease in arable land, "[o]ver the past 70 years, there has been a remarkable *increase* in the yields of *all* major field crops in the United States," and "*more than half* of [those] yield gains are attributed to genetic improvements achieved by plant breeders."[22]

The next generation of enhanced crops promises to produce an additional cornucopia of benefits for farmers and consumers. Environmental stresses such as extremes in temperatures and drought exact an enormous toll on crop production. It is estimated that 80 percent of a crop's genetic potential is lost to environmental stresses, which also limit where and when crops can be grown. Sudden or unexpected changes in weather conditions can have devastating effects as well; a major freezing spell in 1999 caused the California citrus industry a $600 million loss. Currently under development are various enhanced

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[20] National Agric. Statistics Serv., U.S. Dep't of Agric., *Trends in U.S. Agriculture—Farm Numbers and Land in Farms* (Jan. 2001), *available at* http://www.usda.gov/nass/pubs/trends/farmnumbers.htm.

[21] National Agric. Statistics Serv., U.S. Dep't of Agric., *Farms, Land in Farms, and Livestock Operations: 2006 Summary* 2 (Feb. 2007), *available at* http://usda.mannlib.cornell.edu/usda/current/FarmLandIn/FarmLandIn-02-02-2007.pdf.

[22] Jorge Fernandez-Cornejo, Econ. Research Serv., U.S. Dep't of Agric., Agric. Information Bulletin No. 786, *The Seed Industry in U.S. Agriculture: An Exploration of Data and Information on Crop Seed Markets, Regulation, Industry Structure, and Research and Development* 5 (Feb. 2004) ("*The Seed Industry in U.S. Agriculture*"), *available at* http://www.ers.usda.gov/publications/AIB 786 (emphases added).

crops intended to withstand a range of harsh environmental conditions, such as drought-resistant and freeze-resistant crops. Assuming current levels of research and development, these crops should be commercially available in the not-too-distant future.[23]

B. Substantial Resources Are Required To Develop New And Improved Seed Technology.

Improved plant varieties are the product of considerable research and development ("R&D") efforts. For some time, plant breeding was "traditionally the domain of public sector investment."[24] In recent years, however, the private sector has assumed a leading role in the research in and development of new and improved seed technology. Private R&D expenditures have not only "increased dramatically in absolute levels," but have also "increased relative to public levels."[25] From 1960 to 1995, real private R&D expenditures increased by some $514 million—or 1300 percent—while real public R&D expenditures stayed flat.[26] The result has been a marked "shift of more R&D activity to the private sector."[27]

Individual private firms invest substantial resources each year in the research in and development of new enhanced seed technology. A recent government report notes that in 1996 some large

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[23] *Seeds of Opportunity* at 30-31.

[24] *The Seed Industry in U.S. Agriculture* at 42 n.11.

[25] *Id.* at 41.

[26] *Id.* at vii, 42.

[27] *Id.* at 41. *See also Intellectual Property and Genetically Modified Seeds* at 176 ("Private firms now lead in research and development of [genetically engineered] seeds—a role once dominated by governments and international public institutions.").

firms spent between $122 and $133 million on R&D efforts.[28] Even a firm considered to be "a smaller player in the market" spent $37 million.[29] According to an ASTA internal survey, in 2005 a small subset of ASTA's members invested more than $554 million in research in and development of new seed technology. One ASTA member alone recently spent "several hundred million dollars" in developing patented seed technology that produces herbicide-tolerant and insect-resistant crops. *See Monsanto Co.* v. *Scruggs*, 249 F. Supp. 2d 746, 753 n.4 (N.D. Miss. 2001). Future advances in enhanced seed technology are dependent on this continued investment of resources.

C. Strong and Effective Intellectual Property Protection For Enhanced Seed Technology Encourages Research In And Development Of New And Improved Seed Technology.

If private firms could not control and benefit from the fruits of their labors, they would quickly cease to invest the substantial resources required to develop new and improved seed technology. Strong and effective intellectual property protection ensures that private companies will have the opportunity to recoup their R&D costs and make a return on their investments, and thus "encourage[s] private agricultural seed companies to invest in research and development that will bring new technologies to farmers around the world."[30] Indeed, it should come as no surprise that strong and effective intellectual

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[28] *The Seed Industry in U.S. Agriculture*, at 47.

[29] *Id.*

[30] Press Release, Iowa State Univ., College of Agric., *Consumers Benefit from Strong, Enforceable Intellectual Property Protection in Seed Industry, According to Iowa State Study* (Oct. 31, 2005), *available at* http://www.af.iastate.edu/aginfo/ news/ 2005releases/ipstudy.hmtl.

property protection is widely credited for the dramatic growth of private investment in and the development of new and improved seed technology.[31]

Utility patents provide inventors of enhanced seed technology with an important source of intellectual property protection. To obtain a utility patent, a would-be patentee must demonstrate that its seed technology is new, useful, and non-obvious. 35 U.S.C. §§ 101-103. *See also Diamond* v. *Chakrabarty*, 447 U.S. 303 (1980) (holding that patentable subject matter includes plant life). If the would-be patentee satisfies those and other "stringent" requirements, *J.E.M. Ag Supply, Inc.* v. *Pioneer Hi-Bred Int'l, Inc.*, 534 U.S. 124, 142-143 (2001), it receives "an exclusive monopoly for a limited period of time" to make, sell, or use the patented technology. *Pfaff* v. *Wells Elecs., Inc.*, 525 U.S. 55, 63 (1998).

Because of the unique nature of enhanced seed technology, private seed patentees must make their patented technology available to farmers and other end-users through a limited license. Seed technology is self-replicating. A plant produced by an enhanced seed will produce copies of the original seed. Those copies in turn can be planted to produce additional copies of the original seed. Thus, enhanced seeds can be reproduced indefinitely, and at an exponential rate. *See Monsanto Co.* v. *Scruggs*, Nos. 04-1532, 05-1120, 05-1121 (Fed. Cir.), Brief of Appellee Monsanto

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[31] Jorge Fernandez-Cornejo, *et al.*, *Have Seed Industry Changes Affected Research Effort?*, Amber Waves Vol. 2 Issue 1, at 17 (Feb. 2004), *available at* http://www.ers.usda.gov/AmberWaves/February04/Features/HaveSeed.htm; *Intellectual Property and Genetically Modified Seeds* at 160, 178; Brian D. Wright, Univ. of Cal., Div. of Agric. & Nat. Res., *Plant Genetic Engineering and Intellectual Property Protection*, Agric. Biotechnology in Cal. Series, Pub. 8186, at 3-5 (2006), *available at* http://anrcatalog.ucdavis.edu/pdf/8186.pdf.

Company at 7 (noting that one soybean plant grown from a single enhanced soybean seed can produce 36 or more identical soybean seeds containing the same enhanced seed technology).

Limited licenses typically allow farmers to use seed containing patented technology for the planting of a single commercial crop and prohibit farmers from 1) saving and planting seed produced from a crop containing patented technology, and 2) selling or supplying such seed to another person for replanting. Farmers obtain such a license by signing a technology license agreement and paying a licensing or "technology" fee. Bags of seed offered for sale bear a prominent label stating that a license is required before the seed may be used. Such licensing restrictions on the use of second-generation seed allow farmers to make substantial use of the original seed, as farmers are able to grow crops with the full benefit of the particular trait expressed by the seed, such as insect resistance or herbicide tolerance. And while farmers may not save and plant the second-generation seed, they may find other uses for the seed. Corn seeds, for example, may be used in feed; soybean seeds may be crushed for oil.

Such licensing restrictions are also a critical means of protecting a seed patentee's rights in its patented technology. Without them, seed patentees would lose the ability to control and reap the benefits of their patented inventions, and the utility patents which they obtained after considerable time, effort, and expense would be rendered worthless.[32] As one court explained in upholding such restrictions:

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[32] Another source of important intellectual property protection for seed technology is the Plant Variety Protection Act ("PVPA"), 7 U.S.C. §§ 2321 *et seq.*, which offers limited patent-like protection for certain sexually reproduced plants. The PVPA contains an exemption that allows farmers to save seed produced from protected plants for replanting. *See id.* § 2543.

> Given the fact that the gene technology at issue is passed on to the subsequent generations of seed, Monsanto's restriction to the production of a single commercial crop is logically intended to protect its patent monopoly and to thereby permit it to capture revenue in the form of future sales of technology. Without the prohibition against the saving of seed for replanting and resale, Monsanto's patent would soon be rendered useless by virtue of the potential for exponential multiplication of the seed containing its patented technology. [*Scruggs*, 249 F. Supp. 2d at 753.]

If seed patentees lost the ability to restrict the use of second-generation seed—and thus the ability to protect and enforce their patent rights—the consequences would be devastating. Firms that have developed patented seed technology would immediately stand to lose hundreds of millions of dollars in revenues. In addition, hundreds of seed companies—whose entire livelihoods are based on the right to incorporate patented technology into their own germplasm to produce and sell seeds—would be at serious risk of going out of business.

But the negative impact of such an outcome would not be felt by the seed industry alone. By restricting the use of second-generation seed, seed patentees can make their patented technology available to farmers and other end-users at *reasonable* prices. If seed patentees could not recoup their R&D costs and earn

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As this Court recognized in *J.E.M. Ag Supply, supra*—in which the Court held that the PVPA is not the exclusive source of intellectual property protection for sexually reproduced plants—"[u]tility patents issued for plants do not contain such [an] exemption[]." 534 U.S. at 129 n.1. *See also id.* at 143 ("there are no exemptions for * * * saving seed under a utility patent"). That is because "utility patent holders receive greater rights of exclusion" for having met "more stringent requirements." *Id.* at 143.

a return on their investment through repeat sales, they would have to attempt to do so through single transactions with customers. Yet the price of seed in such circumstances would likely be so prohibitively expensive that few farmers could afford to purchase it. Private firms would thus have little incentive to invest the substantial resources required to develop new and improved seed technology, much to the detriment of farmers and consumers. Indeed, that is just what one court prophesied:

> If the limited licensing mechanism were not available to Monsanto, it would * * * have to reap its reward on a fewer number of sales. By logical extension, Monsanto would have to adjust its pricing policy to reflect as much, possibly resulting in such a high price that few farmers could afford the cost of the seed and thereby rendering the technology unavailable to all but the most wealthy. With such a limited market for the technology, it is quite conceivable that it would be commercially infeasible for Monsanto to offer the benefits of its patented biotechnology at all. The result would be a loss to the farmers and a deterrent to future research by Monsanto. [*Id.* at 753-754 n.4.]

II. A SALE OF ENHANCED SEED CONDITIONED ON THE ACCEPTANCE OF A LICENSE RESTRICTING THE USE OF SECOND-GENERATION SEED DOES NOT IMPLICATE THE PATENT EXHAUSTION/FIRST SALE DOCTRINE.

Our Nation's founders recognized the importance of economic incentives for scientific development, granting Congress the authority to "promote the Progress of Science and Useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their Respective Writings and Discoveries." U.S. Const., art. I, § 8, cl. 8. To that end, the patent

laws give inventors, for a limited duration, "the right to exclude others from making, using, offering for sale, or selling the invention." 35 U.S.C. § 154(a)(1).

This Court has long recognized that the "right to exclude" includes the right to grant a limited license to use a patented invention. Indeed, the Court has observed that "[t]he practice of granting licenses for a restricted use is an old one." *General Talking Pictures Corp.* v. *Western Elec. Co.*, 305 U.S. 124, 127 (1938). *See also United States* v. *General Electric Co.*, 272 U.S. 476, 490 (1926) ("The patentee may make and grant a license to another to make *and use* the patented articles but withhold his right to sell them.") (emphasis added). "[T]he rule is, with few exceptions, that any conditions which are not in their very nature illegal with regard to th[e] kind of property [at issue], imposed by the patentee and agreed to by the licensee for the right to manufacture *or use* or sell the [patented] article, will be upheld by the courts." *E. Bement & Sons* v. *National Harrow Co.*, 186 U.S. 70, 91 (1902) (emphasis added). So long as a condition is "reasonably within the reward which the patentee by grant of the patent is entitled to secure"—*i.e.*, that it relates to subject matter reasonably within the scope of the patent grant—a "patentee may grant a license upon [that] condition." *General Talking Pictures*, 305 U.S. at 127 (quotations omitted).

There is no question that licensing restrictions prohibiting the planting or sale of second-generation seed containing patented seed technology are reasonably within the scope of the patent grant for the seed technology. "The licensed and patented product (the first-generation seeds) and the good made by the licensed product (the second-generation seeds) are nearly identical copies." *Monsanto Co.* v. *McFarling*, 363 F.3d 1336, 1343 (Fed. Cir. 2004). Thus, a patent that "reads on the first-generation seeds * * * also

reads on the second-generation seeds." *Id.* Accordingly, "licensing restrictions on the use of goods produced by the licensed product are not beyond the scope of the patent grant," but are merely an "exercise of [the patentee's] right to exclude." *Id.* at 1342-43.

In *Mallinckrodt, supra*, the Federal Circuit held that a conditional sale of a patented article, like a restricted license to use a patented article, does not fully exhaust the patent holder's rights in the article. *See* 976 F.2d at 708. If this Court rejects *Mallinckrodt* and holds that a conditional sale of a patented article does not preserve any of the patentee's exclusive rights with respect to that article—even if the restriction at issue does not deprive the purchaser of a reasonable use of the article—the Court nevertheless should make clear that the sale of a patented article containing self-replicating technology does *not* exhaust the patentee's rights in any copies made by the patented article, such as second-generation seed.

It is well-settled that "[t]he authority to use and sell a purchased device * * * does not include the right to make a new device." *Hewlett-Packard* v. *Repeat-O-Type Stencil Mfg. Co.*, 123 F.3d 1445, 1451 (Fed. Cir. 1997) (citing *Aro Mfg. Co.* v. *Convertible Top Replacement Co.*, 365 U.S. 336, 346 (1960)). *See also Jazz Photo Corp.* v. *International Trade Comm'n*, 264 F.3d 1094, 1102 (Fed. Cir. 2001) ("the ownership of a patented article does not include the right to make a substantially new article"). Because seeds are self-replicating, a plant produced by an enhanced seed will naturally make a copy of the original seed. Licensing restrictions on the use of second-generation seed—the copies of the original, sold seed—merely protect the patentee's right to exclude others from using or selling the second-generation seed. Such restrictions do not implicate the patent exhaustion/first sale doctrine, "as the new

seeds grown from the original batch had never been sold." *McFarling*, 302 F.3d at 1299.

The patent exhaustion/first sale doctrine is based on the principle that in general "[a]n incident to the purchase of any article, whether patented or unpatented, is the right to use and sell it." *United States* v. *Univis Lens Co.*, 316 U.S. 241, 249 (1942). *See also Adams* v. *Burke*, 84 U.S. 453, 455 (1873) ("the sale by a person who has the full right to make, sell, and use * * * a machine carries with it the right to the use of that machine to the full extent to which it can be used in point of time"). That is so because "when the patentee, or the person having his rights, sells a machine or instrument whose sole value is in its use, he receives the consideration for its use and he parts with the right to restrict that use." *Adams*, 84 U.S. at 456. Thus, "the authorized sale of an article which is capable of use only in practicing the patent is a relinquishment of the patent monopoly *with respect to the article sold*." *Univis Lens Co.*, 316 U.S. at 249. (emphasis added). *See also id.* at 251 ("the purpose of the patent law is fulfilled with respect to any particular article when the patentee has received his reward for the use of his invention by the sale of the article, and * * * once that purpose is realized the patent law affords no basis for restraining the use and enjoyment of the thing sold").

Licensing restrictions on the use of second-generation seed do not restrict the use of the original seed—*i.e.*, "the article sold." *See McFarling*, 363 F.3d at 1342-43 (recognizing that seed licensing restrictions did "not impose a restriction on the use of the product purchased under license but rather impose[d] a restriction on the use of the goods made by the licensed product"). Thus, such restrictions do not deprive purchasers of "the only use to which [the original seed] could be put." *Univis Lens*, 316 U.S. at 249. To the contrary, such restrictions allow pur-

chasers to reap substantial benefits from the use of the original seed. *See supra* at 14.

Moreover, it cannot be said that a seed patentee "has received his reward for the use of [the second-generation seed] by the sale of the [original seed]." *Univis Lens Co.*, 316 U.S. at 251. As discussed, if seed patentees were to attempt to convey rights to use or sell second-generation (and successive generations of) seed, the price of the original seed would likely be so prohibitively expensive that few farmers could afford it. *See supra* at 15-16. Thus, the price of the original seed plainly reflects the value of the use rights sold—*i.e.*, the right to use *only* the original seed.

It is axiomatic that a patentee may choose to authorize others to make but not use or sell a patented invention. *See Adams*, 84 U.S. at 456 ("The right to manufacture, the right to sell, and the right to use are each substantive rights, and may be granted or conferred separately by the patentee."); *General Electric Co.*, 272 U.S. at 490 ("The patentee may make and grant a license to another to make and use the patented articles but withhold his right to sell them."). It is not uncommon, for example, for a patentee to license another to manufacture, but not use or sell, its patented invention. Thus, the fact that a purchaser of seed containing patented technology is authorized in some sense to "make" copies of the original seed does not mean that it is also authorized to use or sell those copies. *See Monsanto Co.* v. *Scruggs*, 459 F.3d 1328, 1336 (Fed. Cir. 2006) ("The fact that a patented technology can replicate itself does not give a purchaser the right to use replicated copies of the technology.").

Licensing restrictions on the use of second-generation seed should thus be recognized as a legitimate means of protecting a patentee's rights in

such seed.[33] Indeed, even petitioners would not appear to quibble with that proposition. *See* Cert. Reply 10 (acknowledging that in the analogous software context similar " 'license' restrictions on sold goods are consistent with this Court's cases"); Pet. Br. 43 n.13 (acknowledging that "[s]elf-replicating seeds" raise "unique exhaustion concerns"). To hold otherwise and "[a]pply[] the first sale doctrine to subsequent generations of self-replicating technology would eviscerate the rights of the patent holder." *Scruggs*, 459 F.3d at 1336. In that case, everyone—the seed industry, farmers, and consumers—would lose.

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[33] It is no answer that a seed patentee has a remedy in contract law. To begin with, contract law provides patentees with no recourse against unauthorized downstream users of second-generation seed, who are not in privity with the parties to the technology licensing agreement. Moreover, the patent laws clearly allow patentees to obtain an injunction to prevent the unauthorized use of second-generation seed. *See* 35 U.S.C. § 283; *see also eBay Inc.* v. *MercExchange, L.L.C.*, 126 S. Ct. 1837, 1841 (Roberts, C.J., concurring) (noting "the difficulty of protecting a right to *exclude* through monetary remedies that allow an infringer to *use* an invention against the patentee's wishes"). Patent law also provides for treble damages in cases of willful infringement. *See* 35 U.S.C. § 284; *Dowling* v. *United States*, 473 U.S. 207, 227 n.19 (1985).

CONCLUSION

For the foregoing reasons, in the event this Court does not affirm the judgment below, this Court should make clear that restrictions on the use of an article produced by a patented article containing self-replicating technology, such as second-generation seed, do not implicate the patent exhaustion/first sale doctrine.

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